REVISED 08/10

LSUE COURSE SYLLABUS

I.	**Mathematics 1425**	**Instructor: Mathematics Faculty**

II.	**Course description from the current LSUE catalog:**

Elementary Statistics. Lec. 3; Cr. 3.
An introductory course in descriptive statistics, probability, and inferential statistics. Averages and variation, random variables, probability distributions, binomial distributions, normal distributions, sampling distributions, estimation, hypothesis testing, regression, correlations, and chi-square distributions. Prerequisite: A grade of C or better in Mathematics 1021.

III.	**Textbook(s) and other required materials:**

Elementary Statistics Using the TI-83/84 Plus Calculator, 2nd edition by Mario F. Triola.; Addison-Wesley
TI-83 or TI-83 Plus graphing calculator is required for this course.

IV.	**Evaluation/grading (policy and basis; number and frequency of tests and papers; weights of particular tests or papers; etc.):**

Semester grades are largely determined by performance on hour exams and a comprehensive final exam. Other factors that may be used in determining grades are homework, pop quizzes, recitation, and attendance. Letter grade assignments will be based upon the ten-point scale. A departmental final exam may be given at the discretion of the department faculty.

V.	**Policies pertaining to attendance, late work, make-up work, etc.:**

Students are expected to attend class on a regular basis. Any hour exam which is missed will be made up on a pro-rata basis on the final examination. For example, if a student misses Exam #2, then those questions on the final examination which pertain to the topics tested on Exam #2 will determine the student's grade on Exam #2. If a student earns 40 of 50 possible points, from those questions only, then the student earns 80% on Exam #2.

VI.	**Course objectives:**

A. Development of an understanding, awareness, and appreciation of mathematics.
B. Enhancement of problem solving abilities.
C. Enhancement of mathematical communication skills, both in written and oral form.

D. Improvement of critical thinking and reasoning abilities.
E. Enhancement of understanding of mathematical structure and operations.
F. Increased use of multi-media technology as a tool for both learning and performing mathematics.

VII. Major instructional objectives:

Upon completion of this course the student should be able to:

A. Organize and summarize data using descriptive techniques that are both mathematical and pictorial.
B. Apply some of the more basic rules of elementary probability theory.
C. Identify a binomial experiment and apply the appropriate properties of the binomial distribution.
D. Apply properties of the normal distribution in order to calculate probabilities.
E. Utilize the power of the Central Limit Theorem and its applications to solve problems involving the distribution of sample means.
F. Use the normal and Student's distributions and the proper hypothesis test to make the correct decision concerning the value of a population parameter.

VIII. Brief summary of course content by major units of instruction:

A. Introduction to Statistics
    1. Overview
    2. Types of Data
    3. Critical Thinking
    4. Design of Experiments
B. Summarizing and Graphing Data
    1. Overview
    2. Frequency Distributions
    3. Histograms
C. Statistics for Describing, Exploring, and Comparing Data
    1. Overview
    2. Measures of Center
    3. Measures of Variation
    4. Measures of Relative Standing
D. Probability
    1. Overview
    2. Fundamentals
    3. Addition Rule
    4. Multiplication Rule: Basics
E. Probability Distributions
    1. Overview
    2. Random Variables
    3. Binomial Probability Distributions
    4. Mean, Variance, and Standard Deviation for the Binomial Distribution

F. Normal Probability Distributions
   1. Overview
   2. The Standard Normal Distribution
   3. Applications of Normal Distributions
   4. Sampling Distributions and Estimators
   5. The Central Limit Theorem

G. Estimates and Sample Sizes
   1. Overview
   2. Estimating a Population Proportion
   3. Estimating a Population Mean: s Known
   4. Estimating a Population Mean: s Not Known

H. Hypothesis Testing
   1. Overview
   2. Basics of Hypothesis Testing
   3. Testing a Claim about a Proportion
   4. Testing a Claim about a Mean: s Known
   5. Testing a Claim About a Mean: s Not Known

*I. Inferences from Two Samples
   *1. Overview
   *2. Inferences about Two Proportions
   *3. Inferences about Two Means: Independent Samples
   *4. Inferences from Matched Pairs
   *5. Comparing Variation in Two Samples

J. Correlation and Regression
   1. Overview
   2. Correlation
   3. Regression

K. Multinomial Experiments and Contingency Tables
   1. Overview
   2. Multinomial Experiments: Good-of-Fit
   3. Contingency Tables: Independence and Homogeneity

*Denotes optional chapter(s)/section(s)

IX. Methods of instruction:

The chief method of instruction is the lecture method along with class discussions of the subject matter.

X. Brief overview of special instructions:

Students may seek tutorial assistance in the Tutorial Center.

XI. Bibliography of supplemental references and/or source materials:

None

ADS (Americans with Disabilities Act) Statement

Any student who is a "qualified individual with a disability" as defined by Section 504 of the Rehabilitation Act and Title II of the ADA, and who will need accommodated services (e.g., note takers, extended test time, audiotape, tutorials, etc.) for this course must register and request services through the Office of Academic Assistance Programs, S-150.

CSD CODE OF STUDENT CONDUCT

LSUE enforces discipline on campus to protect the academic environment of the campus and the health and safety of all members of the University community. To accomplish this objective, the University enforces standards of conduct for its students. Students who violate these standards can be denied membership in the LSUE community through imposition of disciplinary sanctions.

The LSUE Code of Student Conduct can be found on the LSUE website (lsue.edu). Follow the "Current Students" link from the homepage, and then click on "Student Handbook."